

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 12, 2009 has been entered.

Acknowledgements

2. Applicants' amendment filed on November 12, 2009 is acknowledged. Accordingly claims 1, 5-6, 8, 11, and 19-33 remain pending.

Response to Arguments

3. Applicant's arguments filed November 12, 2009 have been fully considered but they are not persuasive.

4. With respect to claim 1, Applicant argues that the method of Halperin is complete opposite of the claimed method of claim 1 because the number on the RFID tag is a signed serial number of the label whereas in the method of claim 1, the RFID tag would contain the serial number and the label contains the signed serial number.

In response, Examiner respectfully disagrees with Applicant's characterization and further submits that even if the argument is true it still would be obvious to switch the labeling of Halperin in order to come up with the claimed invention.

5. Applicant further argues that Coppersmith never disclose the use of an RFID tag.

In response, Examiner asserts that the rejection is based on combination of references and for this reason Coppersmith need not disclose or teach RFID tag which is taught by the primary reference Halperin

6. Applicant further argues that Halperin and Coppersmith teach different techniques and therefore the reference cannot be combined.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references are directed towards determining the authenticity of a product and therefore properly combinable.

7. Applicant further argues that even if the references are combinable, that the combination would not result in the claimed invention because the result would be four separate numbers.

In response, Examiner respectfully disagrees and submits that the combination of the references does result in the claimed invention. Applicant is reminded that the visible label on the product containing a serial number and the first encrypted version of the serial number encrypted using the first private key of a first private/public key pair is what is subjected to a cryptographic process in order to generate the signature and determine the authenticity of the product. For example, substituting the visible encrypted label of Coppersmith with the serial number label of Halperin will result in the claimed invention.

With respect to **claims 6, 11 and 21**, Applicant argues that none of the references anticipate or disclose the method recited in claims 6, 11 and 21 for the same reason as in claim 1.

In response, Examiner respectfully disagrees and submits that claims 6, 11 and 21 recite similar limitation and are not patentable for the same reasons as in claim 1.

8. With respect to **claims 5, 8, 19-20 and 22-33**, Applicant argues that these claims depend upon one of independent claims 1, 6, 11 and 21 and are therefore patentable by virtue of their dependency from their respective base claims.

In response, Examiner respectfully disagrees and submits that claims 5, 8, 19-20 and 22-23 are neither patentable being dependent upon one of independent claims 1, 6, 11 and 21 nor for their own individually recited features.

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

10. **Claims 1, 5-6, 8, 11, and 19-33**, are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter.

Based on Supreme Court precedent¹ and recent Federal Circuit decisions, § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing.² If neither of these requirements is met by the claim(s), the method is not a patent eligible process under 35 U.S.C. § 101. In addition, the tie to a particular apparatus, for example, cannot be mere extra-solution activity. See *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps.

To meet prong (1), the method step should positively recite the other statutory class (the thing or product) to which it is tied. This may be accomplished by having the claim positively recite the machine that accomplishes the method steps. Alternatively or to meet prong (2), the method step should positively recite identifying the material that is being changed to a different state or positively recite the subject matter that is being transformed.

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² The Supreme Court recognized that this test is not necessarily fixed or permanent and may evolve with technological advances. *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972).

In this particular case, claims 1, 5-6, 8, 11, and 19-33 fails both prong (1) because the “tie” (e.g. obtaining by radio means, electronically reading, utilizing and determining) is representative of extra-solution activity and/or not tied to any particular machine or apparatus. Additionally, the claim(s) fail prong (2) because the method steps do not transform the underlying subject matter to a different state or thing. Accordingly these claims are directed to non-statutory subject matter.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claims 1, 5-11 and 19-20**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Halperin et al U.S. Patent No. 6,226,619 in view of Coppersmith et al (hereinafter “Coppersmith”) U.S. Patent No. 6,069,955

13. As per **claim 1**, Halperin et al discloses a method for determining if an item is a fraudulent item, the method comprising the steps of:

obtaining by radio means a first number (small tag 2, figs. 1 and 2) associated with the item or item's packaging (fig. 1; col. 5, lines 55-65, which discloses “... number read from the tag ...”);

electronically reading a second number printed on the item or packaging of the item (fig.1; col. 5, line 55-col. 6, line 5, which discloses "serial number on the label"; a bar code label also may be provided with encrypted information relating to the bottle's (e.g., the item's) content, and masked so that the customer can only access it after buying the product, and then recheck the originality of the product using a personal computer in the case of public encryption);

utilizing a public-key cryptographic process and contents of the RFID tag to cryptographically decide whether the second number is a public key signature of the first number; and

determining authenticity of the item based on the result of the decision (col. 2, lines 50-55, which discloses that "the item includes indicia ... for comparison with a secret ... designating authenticity"; col. 3, lines 5-15, which discloses that the customer can participate by verifying that different items on shelves have different serial numbers; col. 5, lines 50-65).

14. What Halperin does not explicitly disclose is:

utilizing a public-key cryptographic process and the first number to cryptographically verify the second number. Halperin however discloses that that "the customer also can check that the serial number and the coded number in the tag are compatible using some public-key" and "...verifying ... the number read from the tag with a number on the serial number on the label...."

15. Coppersmith discloses:

utilizing a public-key cryptographic process and contents of the RFID tag to cryptographically decide whether the second number is a public key signature of the first number (see figs. 1 and 2, which discloses coded and encrypted serial numbers labels which are attached to the item; see claim 1, which discloses that a second label associated with the product hidden from view containing a second encrypted version of said serial number using a second private key of a second private/public key pair ...verifying a match to the said serial number.; col. 3, lines 30-60; col. 4, lines 1-35)

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method comprising utilizing a public-key cryptographic process and contents of the RFID tag to cryptographically decide whether the second number is a public key signature of the first number in view of the teachings of Coppersmith in order to ensure adequate security of the item

16. As per claim 5, Halperin et al further discloses the method wherein the step of determining the item's authenticity comprises associating the item with an authentic item if the signature is verified, otherwise associating the item with a forged item (fig. 1; col. 2, lines 50-55, which discloses that "the item includes indicia ... for comparism with a secret ... designating authenticity"; col. 4, lines 30-40, which discloses that "the customer verify ... that the encrypted number carried by the tag corresponds to the unique serial number ", col. 7, lines 10-15, which discloses that "a unique signature is provided by the tag"; col. 7, line 65-col. 8, line 10).

17. As per claims 6, Halperin et al further discloses a method of manufacturing a product in order to prevent forgery, the method comprising the steps of:

programming an anti-forgery RFID tag pre-programmed with an unalterable first number with a second number, the unalterable first number probabilistically rarely the same number as unalterable first numbers in other anti-forgery RFID tags (small tag 2, figs. 1 and 2 comprising a first number (fig. 1; col. 4, lines 5-15, which discloses that "a tag is used that is preferably unique...that cannot be duplicated; col. 5, lines 55-65, which discloses "... number read from the tag ...");

determining a third number that is a cryptographic signature over the first and second numbers;

affixing the anti-forgery RFID tag comprising first and second numbers to either the product or the packaging associated with the product (small tag 2 affixed to bottle, fig. 1) to either the product or the packaging associated with the product (fig. 1; col. 2, lines 45-55; col. 5, which discloses a tag 72 for being affixed to a high value item"); and

affixing the third number to either the product or the packaging associated with the product (label serial number 3, fig. 1) to either the product or the packaging associated with the product (fig. 1; label serial number affixed to the bottle).

18. What Halperin does not explicitly disclose is:

determining a third number that is a cryptographic signature over the first and second numbers

19. Coppersmith discloses:

determining a third number that is a cryptographic signature over the first and second numbers (see figs. 1 and 2, which discloses coded and encrypted serial numbers labels which are attached to the item; see claim 1, which discloses that a second label associated with the product hidden from view containing a second encrypted version of said serial number using a second private key of a second private/public key pair ...verifying a match to the said serial number.; col. 3, lines 30-60; col. 4, lines 1-35)

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method comprising programming a second number into the anti-forgery RFID tag; determining a third number that is a cryptographic signature over the first and second numbers in view of the teachings of Coppersmith in order to ensure adequate security of the item

20. As per claim 8, Halperin et al failed to explicitly disclose the method wherein the step of affixing the second number to either the product or the packaging associated with the product comprises the step of printing a cryptographic signature on the product or the product's packaging

Coppersmith discloses the method wherein the step of affixing the second number to either the product or the packaging associated with the product comprises the step of printing a cryptographic signature on the product or the product's packaging (see figs. 1 and 2, which discloses coded and encrypted serial numbers labels which are attached to the item; see claim 1, which discloses that a second label associated

with the product hidden from view containing a second encrypted version of said serial number using a second private key of a second private/public key pair ...verifying a match to the said serial number.; col. 3, lines 30-60; col. 4, lines 1-35)

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method wherein the step of affixing the second number to either the product or the packaging associated with the product comprises the step of printing a cryptographic signature on the product or the product's packaging in view of the teachings of Coppersmith in order to ensure security of the item

21. As per claim 11, Halperin et al discloses a method comprising the steps of:
 - obtaining an RFID tag comprising a first number (small tag 2, figs. 1 and 2) comprising a first number (col. 5, lines 55-65, which discloses "... number read from the tag ...");
 - utilizing a private key and the first number to create a second number that is a cryptographic signature, such that cryptographic verification of the second number insures authenticity of an item; and
 - affixing the second number (serial number label 3, fig. 1) and the RFID tag (small tag 2, fig. 1) to the item or the item's packaging (see fig. 1; col. 2, lines 45-55; col. 5, which discloses a tag 72 for being affixed to a high value item").
22. What Halperin does not explicitly disclose is:

utilizing a private key and the first number to create a second number that is a cryptographic signature, such that cryptographic verification of the second number insures a product's authenticity

23. Coppersmith discloses

utilizing a private key and the first number to create a second number that is a cryptographic signature, such that cryptographic verification of the second number insures authenticity of an item (see figs. 1 and 2, which discloses coded and encrypted serial numbers labels which are attached to the item; see claim 1, which discloses that a second label associated with the product hidden from view containing a second encrypted version of said serial number using a second private key of a second private/public key pair ...verifying a match to the said serial number.; col. 3, lines 30-60; col. 4, lines 1-35)

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method further utilizing a private key and the first number to create a second number that is a cryptographic signature, such that cryptographic verification of the second number insures a product's authenticity in view of the teachings of Coppersmith in order to ensure adequate security of the item

24. As per claims 19 and 20, Halperin further discloses the method wherein a bar-code is used for rendering the second number that is printed on the item or item's

packaging (col. 5, line 65-col. 6, line5, which discloses verifiable by scanning ...of course a barcode label may be provided with encrypted information)

25. As per claim 21, Halperin discloses a method for determining if an item is a fraudulent item, the method comprising the steps of:

obtaining by radio means a first and second number from an RFID tag, wherein the first number is unalterable and unique or semi-unique and the second number is associated with the item (small tag 2, figs. 1 and 2) associated with the item or item's packaging (fig. 1; col. 5, lines 55-65, which discloses "... number read from the tag ...");

electronically reading a third number;

utilizing a public-key cryptographic process and the first and second numbers to cryptographically decide whether the third number is a public-key signature of a combination of the first and second numbers; and

determining the authenticity of the item based on the result of the decision (col. 2, lines 50-55, which discloses that "the item includes indicia ... for comparison with a secret ... designating authenticity"; col. 3, lines 5-15, which discloses that the customer can participate by verifying that different items on shelves have different serial numbers; col. 5, lines 50-65)

26. What Halperin does not explicitly disclose is:

electronically reading a third number;

utilizing a public-key cryptographic process and the first and second numbers to cryptographically decide whether the third number is a public-key signature of a combination of the first and second numbers;

27. Coppersmith discloses:

electronically reading a third number (see claim 1);
utilizing a public-key cryptographic process and the first and second numbers to cryptographically decide whether the third number is a public-key signature of a combination of the first and second numbers (see figs. 1 and 2, which discloses coded and encrypted serial numbers labels which are attached to the item; see claim 1, which discloses that a second label associated with the product hidden from view containing a second encrypted version of said serial number using a second private key of a second private/public key pair ...verifying a match to the said serial number.; col. 3, lines 30-60; col. 4, lines 1-35)

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method comprising electronically reading a third number; utilizing a public-key cryptographic process and the first and second numbers to cryptographically decide whether the third number is a public-key signature of a combination of the first and second numbers in view of the teachings of Coppersmith in order to ensure adequate security of the item

28. As per claim 22, Halperin further discloses the method further comprising the step of: electronically determining whether the RFID is an anti-forgery RFID tag (see fig. 1).

29. As per claim 23, Halperin further discloses the method, further comprising electronically determining whether a specific physical feature or a behavioral feature matches that of an anti-forgery RFID tag (col. 7, line 65-col. 8, line 10)

30. As per claims 24 and 28, Halperin further discloses the method further comprising the step of: verifying that the second number is associated with the item (see fig. 1).

31. As per claim 25, Halperin further discloses the method, wherein the verification is performed electronically using an optical scanner (see fig. 1; col. 7, line 65-col. 8, line 10).

32. As per claim 26, Halperin failed to explicitly disclose the method further comprising the step of:
electronically determining whether the second number is an Electronic Product Code (EPC) of the item.
Coppersmith discloses the method further comprising the step of:

electronically determining whether the second number is an Electronic Product Code (EPC) of the item (see fig. 2).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method further comprising the step of: electronically determining whether the second number is an Electronic Product Code (EPC) of the item in view of the teachings of Coppersmith in order to ensure proper identification of the product.

33. As per claim 27, Halperin further discloses the method, wherein the reading is performed by a bar code scanner (col. 2, lines 15-25).

34. As per claim 29, Halperin failed to explicitly disclose a method, wherein:
a third number is obtained from the RFID tag when the first number is obtained,
'the third number is concatenated with, but a separate number than, the first number,
the third number includes product information of the item, the public-key cryptographic process is used with the first and third numbers, and only if the public-key cryptographic process cryptographically decides that the second number is a public-key signature of the first and third numbers is the product determined to be authentic.

Coppersmith discloses:

a third number is obtained from the RFID tag when the first number is obtained,
'the third number is concatenated with, but a separate number than, the first number,
the third number includes product information of the item, the public-key cryptographic

process is used with the first and third numbers, and only if the public-key cryptographic process cryptographically decides that the second number is a public-key signature of the first and third numbers is the product determined to be authentic (see fig. 1; see claim 1).

Accordingly it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the method of Halperin and incorporate a method further comprising a third number is obtained from the RFID tag when the first number is obtained,

'the third number is concatenated with, but a separate number than, the first number, the third number includes product information of the item, the public-key cryptographic process is used with the first and third numbers, and only if the public-key cryptographic process cryptographically decides that the second number is a public-key signature of the first and third numbers is the product determined to be authentic in view of the teachings of Coppersmith in order to ensure security of the item.

35. As per claims 30, 32 and 33, Halperin further discloses a method, wherein the first number does not contain product information of the item (see fig. 1).

36. As per claim 31, Halperin further discloses a method, wherein the first number does not contain product information of the item and the second number contains product information of the item (see fig. 1).

Conclusion

37. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles C. Agwumezie whose number is **(571) 272-6838**.

6838. The examiner can normally be reached on Monday – Friday 8:00 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Calvin Hewitt can be reached on **(571) 272 – 6709**.

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/Charlie C Agwumezie/
Primary Examiner, Art Unit 3685
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